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SHEDRICK, CHARLES TERRELL				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/766,882

Applicant(s)

GRECH ET AL.

Examiner

CHARLES SHEDRICK

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims **1-9, 14-16 and 20** are rejected under 35 U.S.C. 102(e) as being anticipated by Stadelmann et al., US Patent Pub. No.: 2005/0177733 A1, hereinafter, "Stadelmann".

Consider **claims 1 and 14-16 (i.e., claims 14-16 are direct towards the same subject matter as the method of claim 1)**, Stadelmann teaches a method, comprising:
ensuring continuity of a communication session when a user equipment hands over from a first communication network to a second communication network (**i.e., seamless roaming between heterogeneous networks such as WLAN and/or GSM/GPRS/UMTS "so that the user does not have to be aware of the change taking place"**)(e.g., see at least abstract, paragraph **0005,0024, and 0030**);performing an authentication procedure for a packet data session with the second communication network while the user equipment is still connected to the first communication network(**i.e., GSM authentication during WLAN roaming**)(e.g., the **applicants entire specification illustrates the procedure of authenticating in one network**

while being attached to another. For specific example(s) see at least paragraph 0015); and simultaneously performing a packet data protocol session establishment procedure with the second communication network while the user equipment still connected to the first communication network (i.e., on-going packet data session which includes the process of authorization, configuration, profile exchanges, authentication, etc., wherein the user is not aware of the changes. “The existing IP access to the mobile node should not be interrupted if the user changes his location within the network”)(e.g., The Entire specification thoroughly explains the concept. see at least paragraphs 0005 and 0030 for specific examples).

Consider **claim 2 and as applied to claim 1**, Stadelmann teaches wherein the performing of the authentication procedure comprises authenticating the second communication network by the user equipment (e.g., **mutual Authentication**)(see at least paragraphs 0011 and 0031).

Consider **claim 3 and as applied to claim 2**, Stadelmann teaches wherein the performing of the authentication procedure comprises authenticating the user equipment by the second communication network (e.g., **mutual Authentication**)(see at least paragraphs 0011 and 0031).

Consider **claim 4 and as applied to claim 1**, Stadelmann teaches the claimed invention further comprising: providing the first communication network comprising a wireless local area network and the second communication network comprising a cellular network (e.g., see at least **the Abstract for brief explanation of network types**).

Consider **claim 5 and as applied to claim 1**, Stadelmann teaches wherein the performing of the authentication procedure comprises sending information by a user equipment for

authentication and packet data session establishment (**i.e., the very purpose of sending the information is to perform the authentication and a packet data session as outlined by the Applicants summary**) (see at least paragraph 0015), wherein the information travels either as a separate internet protocol package or is piggybacked with existing signaling(**i.e., there are only two ways the information could inherently travel separate or together. This limitation basically covers them both since the path of travel is made optional based on the 'or' condition**)(see also at least paragraph 0015 for a brief understanding).

Consider **claim 6 and as applied to claim 1**, Stadelmann teaches the claimed invention further comprising: configuring a gateway node between the first communication network and the second communication network to act as an access router for the first communication network and to host the packet data session in the second communication network (**e.g., there are several devices in figures 1 and/or 2 that would provide such generic functions since by default an access router would host packets that are routed to a second network and since the generic device functions between the network it would be characterized as at least a GW. See specific explanation of GW devices in paragraphs 0024-0025 and 0029**).

Consider **claim 7 and as applied to claim 1**, Stadelmann teaches the claimed invention further comprising: releasing a packet data session when a user equipment does not handover to the second communication network within a predetermined time, thus requiring the user equipment to repeat the authentication procedure when the user equipment is moving towards the second communication network for a specified time (**i.e., this step is equivalent to losing an RF connection which would be inherent in the Stadelmann reference or any wireless connection absent of the RF connection**).

Consider **claim 8 and as applied to claim 1**, Stadelmann teaches the claimed invention, further comprising: sending by a user equipment a handover trigger indication to a gateway node in the second communication network (**e.g., an access request as noted in at least paragraphs 0015 and 0030**), wherein the handover trigger indication comprises user equipment identification parameters and a packet data protocol profile(**e.g., note IMSI and Access point identification**)(**The PDP profile has been interpreted based on the Applicants specification of what the PDP profile may include. In the instant case Stadelmann teaches at least an Access Point name in paragraphs 0015 and 0030. This step would also be inherent when the mobile wants to use GPRS of the GPRS network in figure 2 it must first attach**); sending by a gateway node the user equipment identification parameters and the packet data protocol profile to a serving node in the second communication network (**e.g., the info is gathered at the SIM gateway and sent further to a HLR/VLR as noted in paragraphs 0015 and 0030. This is also a common elemental function in the GPRS core which attaches as noted in figure 2**); contacting by the serving node a home location register to obtain user equipment authentication parameters(**e.g. see paragraphs 0015 and 0030. also although not explicitly shown in figure 2 the Gr interface of a GPRS core is also attached to an HLR, the HLR shown in the figures 1 and 2 are connected to a GSM network by way of example however the figures also show a GPRS Network**); sending by the serving node a packet data protocol profile request to the gateway node (**e.g., this happens via the SGSN/GGSN connection in the GPRS net. The GGSN acts as an interface between the GPRS backbone network. the GGSN is shown in figure 2 and noted in paragraph 0025**); responding by sending by the gateway node a packet data protocol profile response to the serving node(**e.g.,**

inherent in the GPRS support nodes. The GGSN as noted in figure 2 and paragraph 0025); sending by the serving node authentication information to the gateway node (e.g., see **authentication exchange forwarded via the Access Server as noted in at least paragraphs 0015 and 0030 additional authentication procedures are explained in paragraphs 0032 and 0033);** sending the gateway node the authentication information to the user equipment(e.g., see **authentication exchange forwarded via the SIM GW as noted in at least paragraphs 0015 and 0030 additional authentication procedures are explained in paragraphs 0032 and 0033);** authenticating by the user equipment the second communication network (e.g., see **at least paragraph 0031 which explains a successful authentication);** and sending by the user equipment a response to the serving node and moving the user equipment into the second communication network(e.g., see **at least paragraphs 0015 and 0031 which explains a successful authentication response).**

Consider claim 9 and as applied to claim 1, Stadelmann teaches the claimed invention further comprising: sending by a user equipment a handover trigger indication to a gateway node in the second communication network(e.g., **an access request as noted in at least paragraphs 0015 and 0030);** sending by the gateway node a protocol data unit notification request to a serving node in the second communication network (e.g., **this would inherently happen between the GGSN 50 of figure 2 and a SSGN (not shown) of the GPRS network per communication via AS 23 of figure 2);** contacting by the serving node a home location register to obtain user equipment authentication parameters (e.g., see **at least paragraphs 0015 and 0030 which notes the functionality corresponding to the HLR of the GSM Network. In the case of going through the GPRS network (not explicitly shown in figure 2), the SSGN**

would contact the HLR via the Gr interface); sending by the serving node a proxy authentication and a ciphering request to the gateway node (e.g., see at least paragraph 0031 the SIM gateway 0032 is positioned between the HLR 37 of the GSM network. Accordingly positioning the SIM gateway between the HLR of a GPRS network would send the authentication and ciphering traffic discussed in at least paragraph 0032 through the serving node (SSGN not explicitly shown) of the GPRS network); converting by the gateway node authentication information in the ciphering request(i.e., note explanation above that the job of the GGSN 50 in figure 2 is to convert GPRS packets coming from the SSGN(not explicitly shown), which is then sent to the user equipment(e.g., see paragraphs 0015 and 0030-0031 mutual authentication procedure forwarded via the AS 23 in figure 23); responding by the user equipment with an authentication message that is sent to the gateway node(i.e., mutual authentication response)(e.g., see paragraphs 0015 and 0030-0031 mutual authentication procedure forwarded via the AS 23 in figure 23); converting by the gateway node the authentication message from the user equipment and sending a proxy authentication and a ciphering response to the serving node (i.e., see explanation above of at least paragraphs 0015 and 0030-0031. the following sequence is the response from the UE being sent via the AS through the GW node(s) into the GPRS network . The entire GPRS network is not shown); sending by the serving node a protocol data unit notification response to the gateway node(i.e., see explanation above of at least paragraphs 0015 and 0030-0031. the following sequence is the response from the UE being sent via the AS through the GW node(s) in the reverse direction. The entire GPRS network is not shown); sending by the serving node a create packet data protocol request to the gateway node(i.e., see explanation above of at least

paragraphs 0015 and 0030-0031. the following sequence is the response from the UE being sent via the AS through the GW node(s) in the reverse direction. The entire GPRS network is not shown); sending by the gateway node a create packet data protocol response to the serving node(i.e., see explanation above of at least paragraphs 0015 and 0030-0031. the following sequence is the response from the UE being sent via the AS through the GW node(s) in the reverse direction . The entire GPRS network is not shown); and replying by the gateway node to the handover trigger indication sent by the user equipment by sending a handover trigger response to the user equipment(i.e., see explanation above of at least paragraphs 0015 and 0030-0031. the following sequence is the response from the UE being sent via the AS through the GW node(s) in the reverse direction. The entire GPRS network is not shown).

Consider **claim 20 and as applied to claim 16**, wherein the system comprises or is comprised in a user equipment (e.g., see **user equipment in figure 1**).

Claim Rejections - 35 USC § 102(continued))

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 10-11 and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Jawanda US Patent No.; 6,243,581 B1.

Consider **claims 10 and 17-18**, Jawanda teaches a method and system, comprising: a handover unit configured to hand over by a user equipment from a first communication network to a second communication network (e.g., **the NAA determines seamless handoff from WWAN to WLAN**)(e.g., see at least **figure 4 and col. 4 line 31- col.6 line 10**); and an attachment unit configured, when the user equipment hands over from the first

communication network to the second communication network, to maintain an attachment of the user equipment to the first communication network after the user equipment moves away from a coverage area of the first communication network for a predetermined time in order to allow the user equipment to return to the first communication network without having to repeat an authentication procedure and a packet data session establishment procedure before handing over to the second network(i.e., **the user equipment moves to WLAN but maintains connection to WWAN as noted in at least figure 4 and col. 4 line 31- col.6 line 10**)

Consider **claims 11 and 19 and as applied to claims 10 and 17**, Jawanda teaches wherein the system is configured to release a packet data session when the user equipment does not handover to the second communication network within the predetermined time thus requiring the user equipment to repeat the authentication procedure when the user equipment is moving towards the second communication network for a specified time (**i.e., the session disconnect due to no coverage. furthermore remaining attached is optional as noted in block 122 of figure 4**).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(c), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims **12 -13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jawanda US Patent No.; 6,243,581 B1 in view of Stadelmann et al., US Patent Pub. No.: 2005/0177733 A1, hereinafter, "Stadelmann".

Consider claim **12 and as applied to claim 10**, Jawanda teaches the claimed invention except , further comprising: sending by the user equipment a handover trigger indication to a gateway node in the second communication network, wherein the handover trigger indication comprises user equipment identification parameters and a packet data protocol profile; sending by a gateway node the user equipment identification parameters and the packet data protocol profile to a serving node in the second communication network; contacting by the serving node a home location register to obtain user equipment authentication parameters; sending by the serving node a packet data protocol profile request to the gateway node; responding by sending by the gateway node a packet data protocol profile response to the serving node; sending by the serving node authentication information to the gateway node; sending the gateway node the authentication information to the user equipment; authenticating by the user equipment the second communication network; and sending by the user equipment a response to the serving node and moving the user equipment into the second communication network.

However, in Analogous art Stadelmann teaches the claimed invention, further comprising: sending by a user equipment a handover trigger indication to a gateway node in the

Art Unit: 2617

second communication network (e.g., an access request as noted in at least paragraphs 0015 and 0030), wherein the handover trigger indication comprises user equipment identification parameters and a packet data protocol profile(e.g., note IMSI and Access point identification)(The PDP profile has been interpreted based on the Applicants specification of what the PDP profile may include. In the instant case Stadelmann teaches at least an Access Point name in paragraphs 0015 and 0030. This step would also be inherent when the mobile wants to use GPRS of the GPRS network in figure 2 it must first attach); sending by a gateway node the user equipment identification parameters and the packet data protocol profile to a serving node in the second communication network (e.g., the info is gathered at the SIM gateway and sent further to a HLR/VLR as noted in paragraphs 0015 and 0030. This is also a common elemental function in the GPRS core which attaches as noted in figure 2); contacting by the serving node a home location register to obtain user equipment authentication parameters(e.g. see paragraphs 0015 and 0030. also although not explicitly shown in figure 2 the Gr interface of a GPRS core is also attached to an HLR, the HLR shown in the figures 1 and 2 are connected to a GSM network by way of example however the figures also show a GPRS Network); sending by the serving node a packet data protocol profile request to the gateway node (e.g., this happens via the SGSN/GGSN connection in the GPRS net. The GGSN acts as an interface between the GPRS backbone network. the GGSN is shown in figure 2 and noted in paragraph 0025); responding by sending by the gateway node a packet data protocol profile response to the serving node(e.g., inherent in the GPRS support nodes. The GGSN as noted in figure 2 and paragraph 0025); sending by the serving node authentication information to the gateway node (e.g., see

authentication exchange forwarded via the Access Server as noted in at least paragraphs 0015 and 0030 additional authentication procedures are explained in paragraphs 0032 and 0033); sending the gateway node the authentication information to the user equipment(e.g., see authentication exchange forwarded via the SIM GW as noted in at least paragraphs 0015 and 0030 additional authentication procedures are explained in paragraphs 0032 and 0033); authenticating by the user equipment the second communication network (e.g., see at least paragraph 0031 which explains a successful authentication); and sending by the user equipment a response to the serving node and moving the user equipment into the second communication network(e.g., see at least paragraphs 0015 and 0031 which explains a successful authentication response).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Jawanda to include Stadelmann for the purpose of intersystem handoff to a specific WWAN (e.g., GPRS) as taught by Stadelmann.

Consider claim 13 and as applied to claim 10, Jawanda teaches the claimed invention except further comprising: sending by the user equipment a handover trigger indication to a gateway node in the second communication network; sending by the gateway node a protocol data unit notification request to a serving node in the second communication network; contacting by the serving node a home location register to obtain user equipment authentication parameters; sending by the serving node a proxy authentication and a ciphering request to the gateway node; converting by the gateway node authentication information in the ciphering request, which is then sent to the user equipment; responding by the user equipment with an authentication message that is sent to the gateway node; converting by the gateway node the authentication

message from the user equipment and sending a proxy authentication and a ciphering response to the serving node; sending by the serving node a protocol data unit notification response to the gateway node; sending by the serving node a create packet data protocol request to the gateway node; sending by the gateway node a create packet data protocol response to the serving node; and replying by the gateway node to the handover trigger indication sent by the user equipment by sending a handover trigger response to the user equipment.

However, in Analogous art Stadelmann teaches the claimed invention further comprising: sending by a user equipment a handover trigger indication to a gateway node in the second communication network (e.g., **an access request as noted in at least paragraphs 0015 and 0030**); sending by the gateway node a protocol data unit notification request to a serving node in the second communication network (e.g., **this would inherently happen between the GGSN 50 of figure 2 and a SSGN (not shown) of the GPRS network per communication via AS 23 of figure 2**); contacting by the serving node a home location register to obtain user equipment authentication parameters (e.g., **see at least paragraphs 0015 and 0030 which notes the functionality corresponding to the HLR of the GSM Network. In the case of going through the GPRS network (not explicitly shown in figure 2), the SSGN would contact the HLR via the Gr interface**); sending by the serving node a proxy authentication and a ciphering request to the gateway node (e.g., **see at least paragraph 0031 the SIM gateway 0032 is positioned between the HLR 37 of the GSM network. Accordingly positioning the SIM gateway between the HLR of a GPRS network would send the authentication and ciphering traffic discussed in at least paragraph 0032 through the serving node (SSGN not explicitly shown) of the GPRS network**); converting by the gateway node authentication information in the

ciphering request(i.e., **note explanation above that the job of the GGSN 50 in figure 2 is to convert GPRS packets coming from the SSGN(not explicitly shown), which is then sent to the user equipment(e.g., see paragraphs 0015 and 0030-0031 mutual authentication procedure forwarded via the AS 23 in figure 23)**; responding by the user equipment with an authentication message that is sent to the gateway node(i.e., **mutual authentication response**)(e.g., see paragraphs 0015 and 0030-0031 **mutual authentication procedure forwarded via the AS 23 in figure 23**); converting by the gateway node the authentication message from the user equipment and sending a proxy authentication and a ciphering response to the serving node (i.e., see explanation above of at least paragraphs 0015 and 0030-0031. **the following sequence is the response from the UE being sent via the AS through the GW node(s) into the GPRS network . The entire GPRS network is not shown**); sending by the serving node a protocol data unit notification response to the gateway node(i.e., see explanation above of at least paragraphs 0015 and 0030-0031. **the following sequence is the response from the UE being sent via the AS through the GW node(s) in the reverse direction. The entire GPRS network is not shown**); sending by the serving node a create packet data protocol request to the gateway node(i.e., see explanation above of at least paragraphs 0015 and 0030-0031. **the following sequence is the response from the UE being sent via the AS through the GW node(s) in the reverse direction. The entire GPRS network is not shown**); sending by the gateway node a create packet data protocol response to the serving node(i.e., see explanation above of at least paragraphs 0015 and 0030-0031. **the following sequence is the response from the UE being sent via the AS through the GW node(s) in the reverse direction . The entire GPRS network is not shown**); and replying by the gateway node to the handover trigger

indication sent by the user equipment by sending a handover trigger response to the user equipment(i.e., see **explanation above of at least paragraphs 0015 and 0030-0031. the following sequence is the response from the UE being sent via the AS through the GW node(s) in the reverse direction. The entire GPRS network is not shown).**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Jawanda to include Stadelmann for the purpose of intersystem handoff to a specific WWAN (e.g., GPRS) as taught by Stadelmann.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES SHEDRICK whose telephone number is (571)272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, V. Paul Harper can be reached on (571)-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/766,882
Art Unit: 2617

Page 16

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Supervisory Patent Examiner, Art Unit 2617

/Charles Shedrick/
Examiner, Art Unit 2617
September 15, 2008